Data sheet

ECL Comfort 300 / 301
230 V a.c. and 24 V a.c.

Application

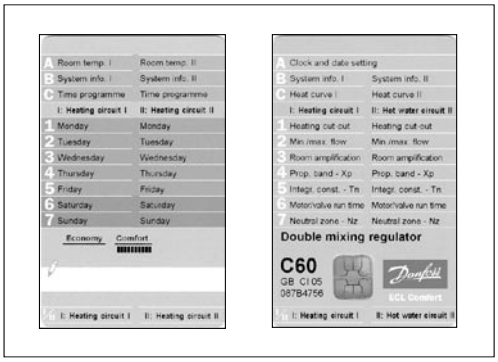
The ECL Comfort 300 / 301 is an electronic temperature controller which can be loaded with selected applications by means of an ECL Card.

The ECL Comfort 300 / 301 controller has triac outputs for motorized valve control and relay outputs for burner/pump/changeover valve control.

It is possible to connect up to 6 Pt 1000 temperature sensors and optional plug-in modules.

The enclosure is designed for wall and panel mounting.

ECL Cards and applications



The ECL Comfort 300 / 301 controller can be loaded with a variety of different applications by means of an ECL Card.

ECL Comfort 300 with application card type C
ECL Comfort 301 with application card type L

The ECL Card contains information about application and factory settings. Each application has its own card with corresponding settings.

Special applications and/or settings are possible on request.

Following applications can be realized together with ECL Comfort 300:

Card	Code no.	Application type description	Controller outputs (without accessories)
C14	087B4824	Constant temperature control (heating/cooling) of ventilation systems.	2 x 3-point, 2 x 2-point
C25	087B4770	Boiler controller with constant temperature control of hot-water circuits and weather compensated flow temperature control of systems.	3 x 2-point
C35	087B4761	Weather compensated flow temperature control of systems with fixed return temperature limitation. Constant temperature control of secondarily connected hot-water circuits with storage tank with built-in heating coil. Optional ON/OFF control of the hot-water circuit in connection with primarily connected storage tank with built-in heating coil.	1 x 3-point, 2 x 2-point
C37	087B4758	Weather compensated flow temperature control of systems with sliding return temperature limitation. Constant temperature control of secondarily connected hot-water circuits with storage charging system or storage tank with built-in heating coil. Optional ON/OFF control of the hot-water circuit in connection with primarily connected storage tank with built-in heating coil.	1 x 3-point, 3 x 2-point**)
C47	087B4821	Weather compensated flow temperature control of systems with sliding return temperature limitation. Constant temperature control of the hot-water circuits with storage charging system or storage tank with built-in heating coil.	2 x 3-point, 3 x 2-point**)
C55	087B4783	Boiler controller with constant temperature control of hot-water circuits and weather compensated flow temperature control of a mixed and an unmixed heating circuit.	1 x 3-point, 3 x 2-point*)
C60	087B4756	Weather compensated flow temperature control of heating systems with sliding return temperature limitation for two independent heating circuits.	2 x 3-point, 2 x 2-point
C62	087B4808	Weather compensated flow temperature control of heating systems with sliding return temperature limitation for two independent heating circuits.	2 x 3-point, 2 x 2-point
C66	087B4757	Weather compensated flow temperature control of heating systems with sliding return temperature limitation. Constant temperature control of hot-water circuits with flow system or storage tank with built-in heating coil.	2 x 3-point, 2 x 2-point
C67	087B4820	Weather compensated flow temperature control of heating systems with sliding return temperature limitation for two independent heating circuits. Constant temperature control of the secondarily connected hot water circuit with storage tank with built-in heating coil. Optional ON/OFF control of hot water circuit in connection with primarily connected storage tank with built-in heating coil.	2 x 3-point, 3 x 2-point
C75	087B4825	Multistage boiler controller with constant temperature control of hot-water circuits and weather compensated flow temperature control of a mixed and an unmixed heating circuit.	1 x 3-point, 4 x 2-point*)

*) Relay module ECA 80 is a necessary accessory.
**) Relay module ECA 80 is an optional accessory (depending on heating type).

Following applications can be realized together with ECL Comfort 301:

Card	Code no.	Application type description	Controller outputs (without accessories)
L05	087B4870	Weather compensated flow temperature control for heat pump system (up to 2 stages), additional heating circuit and temperature control for domestic hot water circuit.	1 x 3-point, 3 x 2-point
L10	087B4874	Flow temperature control for keeping areas snow and ice free .	1 x 3-point, 2 x 2-point
L32	087B4854	Weather compensated flow temperature control in combined heating and cooling systems, typically floor systems. In addition, dew point and slab temperatures are considered.	1 x 3-point, 5 x 2-point
L66	087B4875	Weather compensated flow temperature control of heating systems with sliding return temperature limitation and twin-pump control. Constant temperature control of hot water circuits with flow system and twin-pump control.	2 x 3-point, 4 x 2-point*)
L76	087B4878	Weather compensated flow temperature control of two independent heating systems with sliding return temperature limitation. Constant temperature control of hot-water circuits with flow system and flow switch control.	2 x 3-point, 3 x 2-point, 1 x 0-10 volt **)

*) Relay module ECA 80 is a necessary accessory.
**) ECL Comfort 301 with ECA 83, and 'Temperature monitoring and alarm module' ECA 86 is an optional accessory.

Ordering

Controller and enclosure

Type	Designation	Code no.
ECL Comfort 300	Universal hardware - 230 V a.c.	087B1130
ECL Comfort 300	Universal hardware - 24 V a.c.	087B1134
ECL Comfort 300 with ECA 88	Universal hardware - 230 V a.c. with 2 additional pulse connectors for heat meter	087B1131
ECL Comfort 301	Universal hardware - 230 V a.c.	087B1834
ECL Comfort 301 with ECA 83	Universal hardware - 230 V a.c. with 2 additional analog inputs and 2 analog outputs	087B1836
ECL Comfort 301 with ECA 88	Universal hardware - 230 V a.c. with 2 additional pulse connectors for heat meter	087B1835
Socket - ECL	For wall mounting	087B1149
Panel mounting kit	For ECL Comfort	087B1148
Mounting kit	For DIN-rail	087B1145

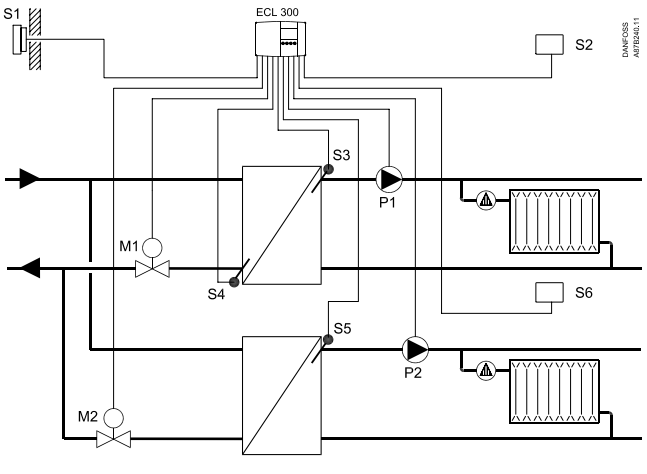
Pt 1000 temperature sensors

Type	Designation	Code No.
ESMT	Outdoor temperature sensor	084N1012
ESM-10	Room temperature sensor	087B1164
ESM-11	Surface sensor	087B1165
ESMB-12	Universal sensor	087B1184
ESMC	Surface sensor incl. 2 m cable	087N0011
ESMU-100	Immersion sensor, 100 mm, copper	087B1180
ESMU-250	Immersion sensor, 250 mm, copper	087B1181
ESMU-100	Immersion sensor, 100 mm, stainless steel	087B1182
ESMU-250	Immersion sensor, 250 mm, stainless steel	087B1183

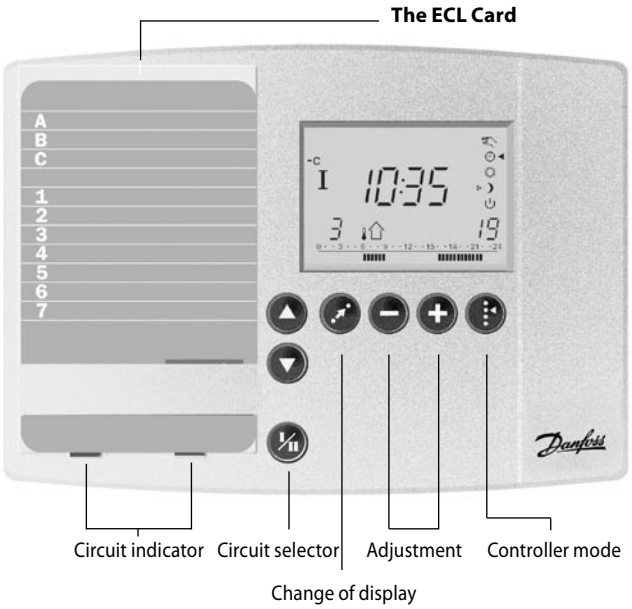
Accessories

Type	Designation	Code no.
ECA 60	Room panel with sensor	087B1140
ECA 61	Remote control with 1 zone clock and sensor	087B1141
ECA 62	Room panel with sensors (°C and % RH)	087B1169
ECA 63	Remote control with sensors (°C and % RH)	087B1143
ECA 71	MODBUS communication module	087B1126
ECA 80	Relay module - 2 x SPCO	087B1150
ECA 82	LON - communication module	087B1152
ECA 84	M-Bus - communication module	087B1155
ECA 86	Temperature monitoring and alarm module	087B1158
ECA 87	RS 232 remote control and data log Modem cable (1.5 m) for ECA 87 PC cable (1.5 m) for ECA 87	087B1160 087B1171 087B1172
ECA 99	24 V transformer, Lübke (35 VA)	087B1156
ECA 9010	Override module (for controller time programs)	087B3081

Application example



Operation



Controller mode

Manual operation (used only at maintenance and service)

Automatic operation

Constant comfort temperature

Constant reduced temperature

Stand-by mode

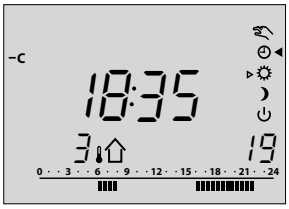
Arrow buttons. Switch between the lines of the ECL Card.

Shift button. Switch between temperatures, changeover points etc.

Adjust temperatures and values etc.

Circuit selector for switches between circuit I / II.

Display example:



The display shows all status information about the system. The time and the program is shown in one of the displays which can be selected as a favourite display. The display is also used for the setting of control parameters.

Functions

ECL Comfort 300 / 301 has a custom-designed display with backlight for monitoring and setting.

The controller can be used as master or slave in systems with master/slave controllers.

A remote control or room panel can be connected to the system device bus.

Optional modules can be inserted into the controller for communication via LON, RS-232, or M-Bus (heat meter).

A relay module can be added to extend the performance of outputs if they are used in the selected application.

The Auto Tuning function for the automatic setting of control parameters for instantaneous domestic hot water production is available with the ECL Card C66.

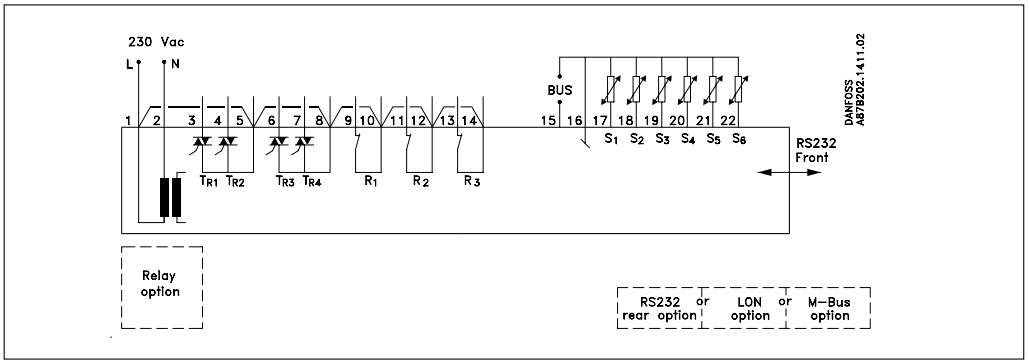
However, Auto Tuning is only applicable with valves that are approved for Auto Tuning, i.e. the Danfoss types VB 2 and VM 2 with split characteristic as well as logarithmic valves such as VF and VFS.

Motor protection, which ensures stable control and a long life of the motorized valve, is available for all ECL C Cards with the exeption of C14 and C25.

General data

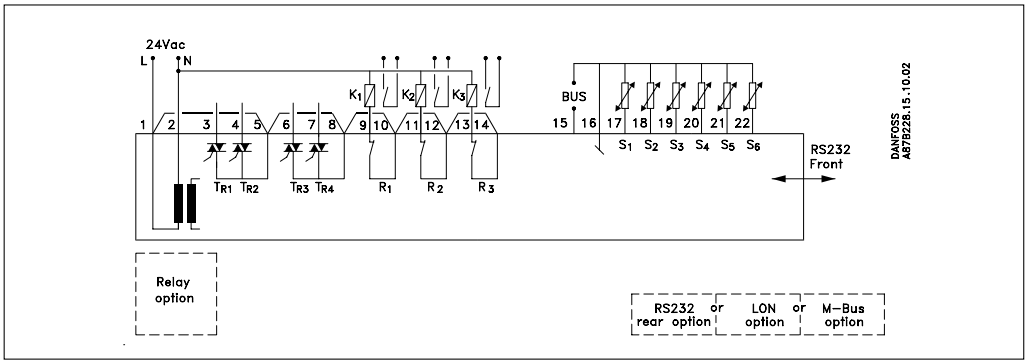
Ambient temperature	0 - 50 °C
Storage temperature	-40 - + 70 °C
Enclosure	Wall or panel mounting
Sensor type	Pt 1000 (1000 ohm at 0 °C)
Grade of enclosure	IP 41 - DIN 40050
CE - marking in accordance with the standards	EMC-Directive 89/336/EEC, 92/31/EEC, 93/68/EEC, EN 61000-6-3 and EN 61000-6-1 Low Voltage Directive 73/23/EEC and 93/68/EEC

Wiring - 230 V a.c.



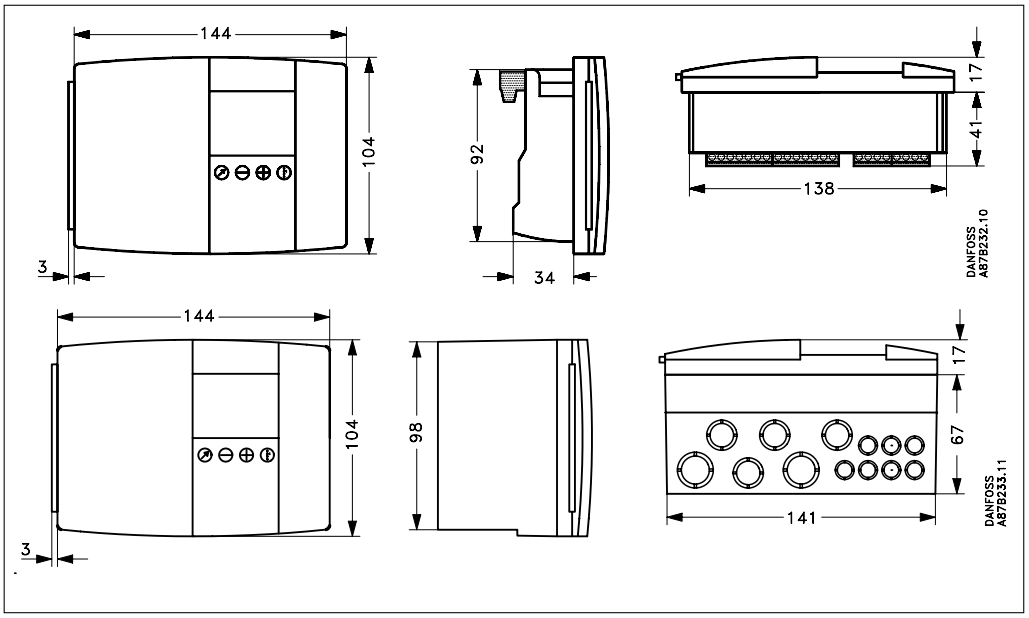
Supply voltage	230 V a.c. - 50 Hz
Voltage range	207 to 244 V a.c. (IEC 60038)
Power consumption	5 VA
Load on relay outputs	4(2) A - 230 V a.c.
Load on triac outputs	0.2 A - 230 V a.c.

Wiring - 24 V a.c.



Supply voltage	24 V a.c. - 50 Hz
Voltage range	21.6 to 26.4 V a.c. (IEC 60038)
Power consumption	5 VA
Load on relay outputs	4(2) A - 24 V a.c.
Load on triac outputs	1 A - 24 V a.c.

Dimensions



Cut-out for mounting

Mounting in a panel (connector set, code no. 087B1148):

The panel plate thickness A must not exceed 3 mm.

Mounting on a wall (socket code no. 087B1149):

The plate thickness B must not exceed 1 mm.